ABSTRACT OF THE DISCLOSURE

The invention relates to an *in vitro* method for inducing a conformational transition in proteins, whereas said conformational transition results in an increased content of β-sheet secondary structure, the method comprising the steps of: a) providing a conversion buffer; b) adding a solution of lamellar lipid structures that comprise negatively charged lipids to the conversion buffer; c) adding protein molecules to the conversion buffer; d) forming a sample mixture from the conversion buffer, the added lipids and protein molecules; e) establishing a conversion temperature in the sample mixture; and f) exposing the sample mixture of step d) to the conversion temperature according to step e) for a time sufficient to form conformationally transitioned proteins. By this method water soluble complexes of lamellar lipidic structures and conformationally transitioned proteins are formed, the conformationally transitioned proteins being oligomeric β-sheet intermediate structures. Amyloidogenic aggregates may be produced of the water soluble complexes of lamellar lipidic structures and oligomeric β-sheet intermediate structures by actively destroying the lamellar lipid structures. Such proteins may be involved in neurodegenerative diseases like Transmissible Spongiform Encephalopathy (TSE), Alzheimers disease, Multiple Sclerosis and Parkinsons disease. The disclosure comprises the use of the proteins produced by the method, e.g., for exploiting the various aspects of the PrP^{C} to PrP^{Sc} conversion; for the development of new diagnostic TSE-tests and potential therapeutics or prophylactics against TSE such as Creutzfeldt-Jakob disease in human.

(Fig. 7)